Statement of
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Committee on Resources
U.S. House of Representatives
in support of
H.R. 4010: National Geologic Mapping Reauthorization Act of 2004
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Madam Chair and Members of the Subcommittee:

Thank you for this opportunity to present testimony in support of H.R. 4010 and efforts to reauthorize the National Geologic Mapping Act of 1992.

I am the State Geologist of Indiana and have been for the past nearly six years. Prior to that, I served as the State Geologist of Montana for nearly four years. I am also the current President of the Association of American State Geologists, an organization representing the State Geologists of the 50 United States and Puerto Rico. Founded in 1908, the AASG seeks to advance the science and practical application of geology and related earth sciences in the United States and its territories, commonwealths, and possessions. The AASG also serves to improve the overall effectiveness of State Geological Surveys through the interchange of ideas and techniques especially as they relate to the collection, organization, preservation, and dissemination of data and information essential for the wise stewardship of energy, mineral, and water resources within each of the States.

My testimony today will emphasize the effectiveness of the National Cooperative Geologic Mapping Program from the State's perspective. It will focus on three important aspects of the current NCGMP, and I hope to demonstrate to you the success of the program and thereby encourage the passage of the National Geologic Mapping Reauthorization Act of 2004.

The National Cooperative Geologic Mapping Program was created with the passage of the National Geologic Mapping Act of 1992. Since then, the Act has been reauthorized in 1997 and 1999, each time by unanimous consent of Congress and with strong bipartisan support, attesting to the success of the program. Since 1993, the NCGMP has supported new mapping in 49 of the 50 States plus Puerto Rico.

Program Management

As a State Geologist for nearly ten years and having been involved with the NCGMP for nearly as long as it has existed, I am continually reassured of the sound administration of the Program by the U.S. Geological Survey. I do not offer that comment lightly, for State Geologists, through the AASG, insist that the USGS facilitate making this cooperative program a success. This is accomplished by a number of means, the most prominent of which is providing AASG representatives on the NCGMP's Federal Advisory Committee. The AASG believes this committee provides an important forum for the State government and private sectors, academia, and other Federal agencies to assist in evaluating the progress of the Federal, State, and university geologic mapping activities undertaken to fulfill the National Geologic Mapping Act of 1992. Additionally, the AASG elects representatives from amongst its membership to serve on the FEDMAP, the STATEMAP, and the EDMAP Review Panels.

Within each State, and as a requirement of the STATEMAP Program, there is an advisory committee composed of what we often refer to as end-users, individuals who utilize geologic maps to address issues of importance in their respective professions or areas of expertise. Typically these committees are composed of individuals from State, county, municipal, and local Federal government offices; academicians and

teachers; researchers; petroleum and mineral explorationists; environmental consultants; and those in the private sector for whom earth science plays an important role in their businesses. In Indiana, for example, the Geologic Mapping Advisory Committee consists of State and county health department officials, a county planner, hydrologists and hydrogeologists from the Indiana departments of Natural Resources and Environmental Management, officials from the State's departments of Commerce and Transportation, the State geographic information system (GIS) coordinator, regional representatives of the USGS and the Department of Agriculture, and members of the coal and aggregate extractive industries.

The process of geological mapping is an evolving task. As society's needs have changed over the decades, so have the information requirements of geologic maps. The State Geological Surveys are sensitive to these information needs, and they are continuing to conduct geological mapping with modern technologies to create maps that will aid in addressing societal issues.

Members of each of the State's geological mapping advisory committees are individuals who, as end-users, are in a position to offer objective and constructive input to each State Geological Survey as it develops its mapping plans. The advisory committee plays an important role in providing grassroots guidance and assisting with setting mapping priorities with each successive year of the program. Hence, the STATEMAP component of NCGMP is user-drive and locally-controlled to address customers' needs.

STATEMAP awards are granted to the States annually, following a truly competitive process. STATEMAP proposals submitted to the USGS are carefully evaluated by a STATEMAP Review Panel. The fairness of the process is paramount, as the USGS and the AASG share equally in determining award levels for the forthcoming year's mapping season and map production efforts. Representatives of the AASG on the Review Panel are elected by their fellow State Geologists, and service on the Review Panel is limited to three years, on a rotating basis. I have had the privilege of serving on the STATEMAP Review Panel, and I can affirm that the process by which funding levels are determined is rigorous, objective, and reassuringly fair, as any peer-review process should be. By no means does any State receive a STATEMAP grant automatically by merely applying for one. Each proposal is considered in accordance with numerous criteria, the most important of which require annual productivity of high quality digital geologic maps.

In addition, I cannot overemphasize the importance of the matching requirement in this Federal / State partnership. Scarce funds are leveraged on both sides, and the end result is a stretching of resources to benefit both the Nation as well as the respective States.

The National Geologic Mapping Act as originally authorized emphasizes partnerships between State and the Federal governments. I am pleased to relate to you that the USGS administrators of the STATEMAP Program are dedicated professionals, who are intent on managing what is truly an active partnership between the USGS and the AASG. Toward that end, the Program administrators are open and responsive to suggestions from State Geologists and from State mapping advisory committees to improve upon and enhance an already well-run program. Moreover, the STATEMAP Review Panelists meet at length before and immediately after the annual review process to evaluate the review procedures themselves and make adjustments in the successive year's criteria. In being receptive and responsive, the USGS administrators have been able to create and evolve a program that possesses not only relevancy and fairness, but one to which all parties are overwhelmingly supportive.

Accomplishments

The USGS testimony has mentioned the success of the NCGMP in terms of the number of maps created: the combined FEDMAP, STATEMAP, and EDMAP efforts have produced more than 7,500 new geologic maps and modern, digital versions of earlier detailed maps. Yet, with this amazing level of productivity over the past eight years, still only approximately 25% of the Nation is mapped at a scale that is adequate for most applications to energy, mineral, and water resources, environmental protection, risk reduction from natural hazards, as well as addressing issues of homeland security.

As an example of the importance and societal relevancy of geologic mapping in my home State of Indiana, STATEMAP products are being used by LaGrange County Health Department officials to address a serious problem concerning groundwater contamination. Located in the northern part of the State, LaGrange County is largely rural; the gently rolling landscape being a product of the last Ice Age. Geologic mapping has revealed a complex terrain of highly porous, glacial sediments. The sands and gravels in the earth's surface constitute numerous shallow aquifers, the source of 90% of residential drinking water in the area. High

levels of nitrate and bacteria in the groundwater are not uncommon, the product of thousands of private septic systems and numerous confined animal feedlots. Regrettably, groundwater contamination has been linked to human infant mortality and spontaneous miscarriages in livestock. Using geologic maps of the area, scientists from the Indiana Geological Survey are working closely with LaGrange County officials and residents to ensure a proper spacing of water wells, septic systems, and feedlots to protect the groundwater aquifer from further contamination.

Geologic Mapping Database and Digital Mapping

The AASG has worked very closely with staff of the USGS in establishing and constructing the National Geologic Map Database as required by the National Geologic Mapping Act of 1992. The database, available at the USGS Website, continues to grow annually, and it has proven to be a valuable information resource, a central location for ready access to over 60,000 maps.

Additionally, digital mapping specialists of the AASG and the USGS cooperate closely with others from government, private industry, and academia who are involved with developing digital mapping protocols and attending to the National Spatial Digital Infrastructure standards established for metadata. Because of this collective effort, the standards have been widely accepted by those who compile digital geologic maps.

In the true spirit of a partnership the AASG and USGS co-sponsor and organize an annual digital mapping techniques workshop. Now in its eighth year, this event brings together digital mapping specialists to exchange ideas and techniques essential for the efficient and economical construction of digital geologic maps. The proceedings of the workshop are published each year by the USGS and available over the Internet, so that more than those who attended the meetings can benefit from this growth in knowledge.

Finally, I request that the recently published book, “Meeting Challenges with Geologic Maps,” by the American Geological Institute, be entered into the record as part of my testimony today. It serves to explain and illustrate the myriad of ways geologic maps are being used in this country to address questions of importance to its citizens.

In conclusion, the NCGMP is an excellent Federal / State partnership with proven productivity and societal relevance. I strongly endorse for your beneficial consideration the National Geologic Mapping Reauthorization Act of 2004.

I appreciate this opportunity to present my views to the subcommittee, and I would be pleased to answer any questions or to provide additional information for the record.

Thank you for this opportunity to testify.